



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D119-796-141
Job Sheet 171230



Part No: D119-796-141 **Job Qty:** 1 ea
Part Name: Fwd Crosstube Installation Without Step (No Hardware)



Part Weight: 0 lbs **Status:** Scheduled **Priority:** Medium
Job Created: 1/30/18 **Job Tracking No:**
Due Date: 2/28/18 **Created By:** Michelle Gagnon-Donovan
Type: Stock **Description:**
Ship Via: *ADAS REV H.*

9-89

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		2/27/18	0.00	0.00	Start Up Crosstubes-1		<i>GP</i>
120	Packaging	1 pcs		2/27/18	0.00	0.00	Packaging1-1		<i>GP</i>
130	CNC Bend Crosstubes	1 pcs		2/27/18	0.00	3.85	CNC Bend Crosstube		<i>GP</i>
140	QC	1 pcs		2/27/18	0.00	0.00	QC15		<i>38</i>
145	Crosstubes	1 pcs		2/27/18	0.00	3.06	Crosstubes-1		<i>GP 9-89</i>
150	Crosstubes	1 pcs		2/27/18	0.00	3.06	Crosstubes-1		<i>GP</i>
160	HandFXtube	1 pcs		2/27/18	0.00	1.49	HandFinish5		<i>GP 2018/13/3</i>
175	QC	1 pcs		2/27/18	0.00	0.00	QC7-1		<i>38</i>
180	Outsource	1 pcs		2/27/18			SKY002-VC <i>393/16</i>		<i>MAR 15 2018</i>
190	Packaging	1 pcs		2/27/18	0.00	0.00	Packaging1-1		<i>AT 18/07/15</i>
200	QC	1 pcs		2/27/18	0.00	0.00	QC5		<i>38</i>
230	SprayPaint	1 pcs		2/27/18	0.00	1.36	Spray Paint		<i>SR 9-89</i>
240	QC	1 pcs		2/27/18	0.00	0.00	QC14		<i>APR 04 2018</i>
242	Crosstubes	1 pcs		2/27/18	0.00	3.06	Crosstubes-1		<i>APR 07 2018</i>
244	QC	1 pcs		2/27/18	0.00	0.00	QC5		<i>38</i>
246	SprayPaint	1 pcs		2/27/18	0.00	1.36	Spray Paint		<i>APR 18 2018</i>
248	SprayPaint	1 pcs		2/27/18	0.00	1.36	Spray Paint		<i>APR 18 2018</i>
250	QC	1 pcs		2/27/18	0.00	0.00	QC14		<i>38</i>
252	Crosstubes	1 pcs		2/28/18	0.00	3.06	Crosstubes-1		<i>APR 22 2018</i>
260	QC	1 pcs		2/28/18	0.00	0.00	QC5		<i>38</i>
275	DC	1 pcs		2/28/18	0.00	0.00	DC		<i>APR 22 2018</i>
290	Packaging	1 pcs		2/28/18	0.00	0.00	Packaging3-1 <i>LG050</i>		<i>APR 22 2018</i>
300	QC21-FG	1 Ea		2/28/18	0.00	0.00	QC21		<i>APR 23 2018</i>

Part Op 130 - Bend tube as per Dwg D119-796-141 using CNC bender program
Descriptions: 145 - 1- CUT TUBE AT HEIGHT ON FAI SHEET 2- VERIFY HEIGHT: *21.625* BY QC15 LEVEL

INSPECTOR: 3- DEBURR CUT SURFACE

150 - ***** ENSURE PROPER JIG POSITIONING ***** ENSURE PROPER JIG POSITIONING

***** 1-DRILL TUBE AS PER DWG USING DT ***** 2- DRILL RIVET HOLES USING DT8787 FWD 3-
DEBURR AND C/SINK RIVET HOLES AS PER DWG 4- FLIP TUBE, REPEAT STEP 2 AND 3 5- SCRIBE PART# AND
BATCH# USING VIBRATING STYLUS ON INSIDE OF CUFF AS PER DWG D119-796-141 6- INSPECT AND REMOVE
ALL MARKS FROM TUBE WITHIN LIMITS ON DWG D119-796-141

160 - ***IMMEDIATELY AFTER GRINDING*** 1- handfinish X-TUBE INSIDE AND OUT 2- ALODINE AND ACID ETCH X-
TUBE INSIDE AND OUT AS PER QSI005.

180 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or
Issue P/O: LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order

190 - Ensure copy of NDT results attached to work order.
200 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Inspect for damage & ensure results are as per
Dwg D119-796-141

230 - ***VERIFY BY _____ BATCH # TO MATCH W/O _____ ***VERIFY BY _____ PART #

Primer M138687

Plex 1/31/18 3:46 PM Dart.Gagnon.Michelle

TO MATCH W/O _____ ***MASK SCRIBE B# & P# AND VERIFY*** 1- Prime Inside of tube. 2- Install nut plates as per dwg (D2873-043) 3- Mask cuffs per note#2. 4- Prime exterior of tube per QSI005. Primer Batch: M138687 Start Time: _____ Finish Time: _____

240 - ***VERIFY BY _____ BATCH # TO MATCH W/O _____

242 - Assemble as per dwg D119-796-141 and Qsi 015 1- Abrade mating surfaces with Scotch Brite 7447 and clean with Dupont 4105s or equivalent as per dwg. 2- Install D5152-041 with proseal 890 on concave surface, 0.100" MIN thick as per dwg using DT10089 (identified righ and left) ****MAINTAIN CLAMPING PRESSURE ON FOR MIN 72HRS**** Proseal Batch: 138784 EXP: 9/18 PROSEAL CURE TIME 72 HOURS: Start: 18-4-7 Finish: 18-4-10 3- Install support and shim using proseal 890 per dwg and clamp in position.

244 - ***VERIFY BY _____ BATCH # TO MATCH W/O _____

246 - ***VERIFY BY _____ BATCH # TO MATCH W/O _____ 1- Remove all non-fixed hardware and clean any excess proseal. 2- Scuff tube with Scotch Brite 7447. 3- Mask cuff per note#2. 4- Prime as per dwg and QSI005 5- Apply matte clear as per dwg and QSI005 Clear Batch: 138832 Primer 138687

248 - ***VERIFY BY _____ BATCH # TO MATCH W/O _____ 1- Mask underside of tube as per dwg. Mask cuff per note#2. 2- Scuff tube with Scotch Brite 7447 3- Paint outside of crosstube Paint Batch: 138793

250 - ***VERIFY BY _____ BATCH # TO MATCH W/O _____

252 - 1- Re-install non fixed hardware per dwg ***Torque all clamps to 80-100 IN-LBS.*** 2- Apply a filet-seal of proseal 890 around supports. Allow proseal to dry before inspecting. Proseal 890 Batch: _____ EXP: _____ PROSEAL CURE TIME 72 HOURS: Start: _____ Finish: _____

260 - ***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED AS PER DWG.*** ***VERIFY BY _____ BATCH # TO MATCH W/O _____

275 - Photocopy bluefile and create labels as per PPP D119-796-141 chg 004

290 - Identify and pack for shipping as per PPP D119-796-141

on w/o 170342-A

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D119-796-141TRN	Crosstube Turning Detail	1 Ea (1 ea)	90-Start up Operation	
CR3212-4-08	Rivet	16 Ea (16 ea)	242-Crosstubes	
D2873-043	Nut Plate Assembly	4 Ea (4 ea)	242-Crosstubes	
D5123-3	Clamp Cushion	4 Ea (4 ea)	242-Crosstubes	
D5124-1	Fwd Support	2 Ea (2 ea)	242-Crosstubes	
D5152-041	Fwd Post Mount Assembly	2 Ea (2 ea)	242-Crosstubes	
D5305-1	Shim	2 Ea (2 ea)	242-Crosstubes	
MS21920-24	Clamp	4 Ea (4 ea)	252-Crosstubes	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D119-796-141TRN	1	7	0
242-Crosstubes	CR3212-4-08	18 18 → 2 scrap	191	0
	D2873-043	④	53	0
	D5123-3	④	354	0
	D5124-1	② 5041186	10	0
	D5152-041	②	8	0
	D5305-1	②	10	0
252-Crosstubes	MS21920-24	④	85	0



Container No: S048069



Part: D119-796-141

Job No: 171230

Serial No/Batch: S048069

Revision:

Inspector:

Dart Aerospace Ltd.
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Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 813 632-6200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 03/06/18

Part Specifications					
Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Crosstube Assembly (AW119 MKI Fwd)	6.000Inches $\pm$ 0.030	6.030 5.970		
2	Crosstube Assembly (AW119 MKI Fwd)	2.516Inches $\pm$ 0.005	2.521 2.511		
3	Crosstube Assembly (AW119 MKI Fwd)	2.333Inches $\pm$ 0.005 - 0.000	2.338 2.333		
4	Crosstube Assembly (AW119 MKI Fwd)	2.333Inches $\pm$ 0.005 - 0.000	2.338 2.333		
5	Crosstube Assembly (AW119 MKI Fwd)	2.408Inches $\pm$ 0.005 - 0.000	2.413 2.408		
6	Crosstube Assembly (AW119 MKI Fwd)	2.502Inches $\pm$ 0.005 - 0.000	2.507 2.502		
7	Crosstube Assembly (AW119 MKI Fwd)	2.596Inches $\pm$ 0.005 - 0.000	2.601 2.596		
8	Crosstube Assembly (AW119 MKI Fwd)	2.596Inches $\pm$ 0.005 - 0.000	2.601 2.596		
9	Crosstube Assembly (AW119 MKI Fwd)	6.000Inches $\pm$ 0.030	6.030 5.970		
10	Crosstube Assembly (AW119 MKI Fwd)	2.516Inches $\pm$ 0.005	2.521 2.511		
11	Crosstube Assembly (AW119 MKI Fwd)	2.333Inches $\pm$ 0.005 - 0.000	2.338 2.333		
12	Crosstube Assembly (AW119 MKI Fwd)	2.333Inches $\pm$ 0.005 - 0.000	2.338 2.333		
13	Crosstube Assembly (AW119 MKI Fwd)	2.408Inches $\pm$ 0.005 - 0.000	2.413 2.408		
14	Crosstube Assembly (AW119 MKI Fwd)	2.502Inches $\pm$ 0.005 - 0.000	2.507 2.502		
15	Crosstube Assembly (AW119 MKI Fwd)	2.596Inches $\pm$ 0.005 - 0.000	2.601 2.596		
16	Crosstube Assembly (AW119 MKI Fwd)	2.596Inches $\pm$ 0.005 - 0.000	2.601 2.596		
17	Crosstube Assembly (AW119 MKI Fwd)	102.260Inches $\pm$ 0.020	102.280 102.240		

Plex 1/31/18 3:46 PM Dart.Gagnon.Michelle

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

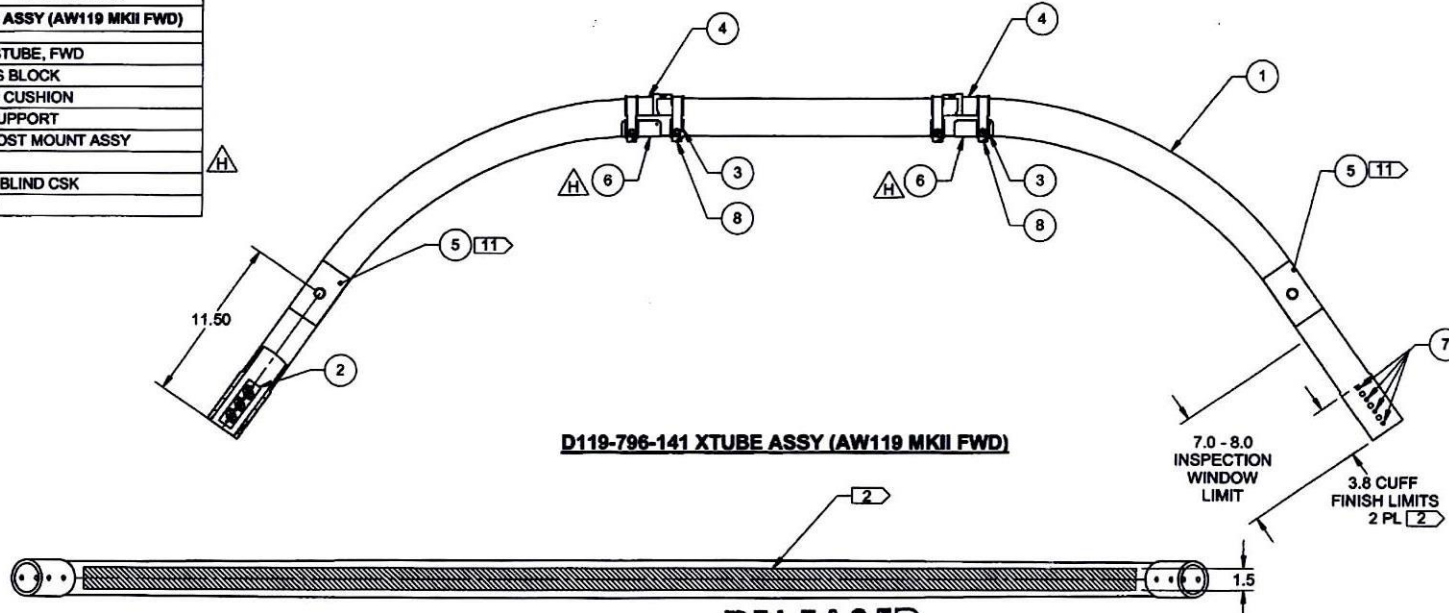
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

ITEM	QTY	P/N	DESCRIPTION
	X	D119-796-141	XTUBE ASSY (AW119 MKII FWD)
1	1	D119-796-141BND	CROSSTUBE, FWD
2	4	D2873-043	RADIUS BLOCK
3	4	D5123-3	CLAMP CUSHION
4	2	D5124-1	FWD SUPPORT
5	2	D5152-041	FWD POST MOUNT ASSY
6	2	D5305-1	SHIM
7	16	CR3212-4-08	RIVET, BLIND CSK
8	4	MS21920-24	CLAMP

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 171230

JAN 31 2018



D119-796-141 XTUBE ASSY (AW119 MKII FWD)

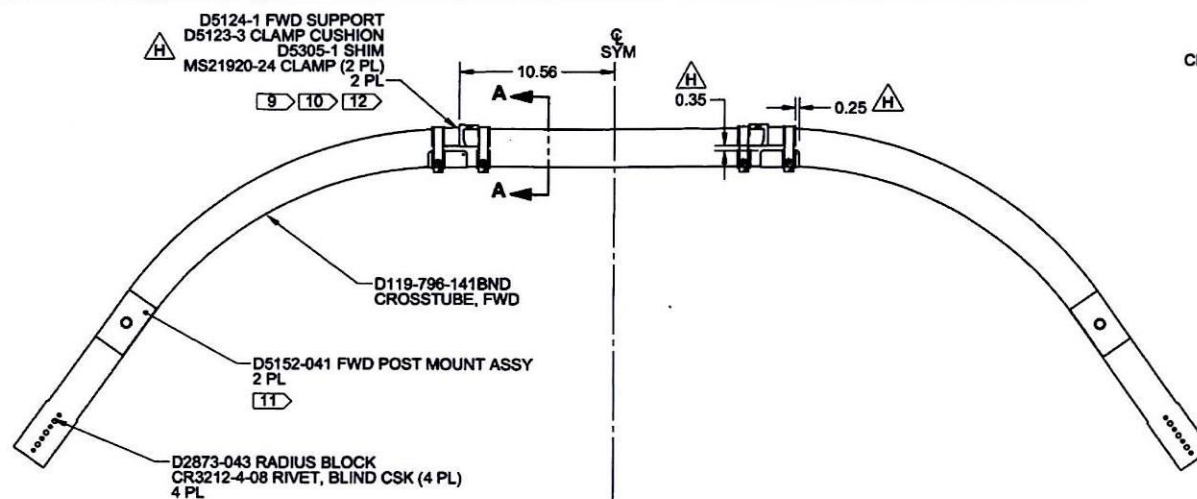
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2015-11-04
EW 15-642

NOTES:

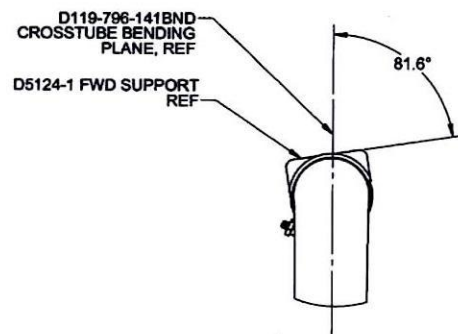
- 1) MATERIAL: N/A
- 2) FINISH: APPLY MATTE CLEAR COAT PER QSI 005 4.2
MASK D5124-1 FWD SUPPORTS, D5305-1 SHIMS AS WELL AS UNDERSIDE OF CROSSTUBE AS SHOWN (B3-1, HATCHED AREA),
PAINT OUTSIDE PER DART QSI 005 4.2 AFTER APPLYING CLEAR COAT
DO NOT APPLY FINISH (PAINT OR CLEAR COAT) TO CUFFS IN LOCATION SHOWN, MASK PRIOR TO FINISHING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY USING PART NUMBER "D119-796-141" AND BATCH NUMBER ON INSIDE OF CUFF PER QSI 044 8.4
- 7) WEIGHT: 18.54 lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE.
THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM DEFECTS SUCH AS SCRATCHES, NICKS OR DENTS.
DEFECTS UP TO 0.005 MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 9) PRIOR TO FINISHING, ABRASE MATING SURFACES OF D5124-1 FWD SUPPORTS AND CROSSTUBE WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH'N'WIPE DEGREASER. APPLY A 0.1 MIN THK LAYER OF PROSEAL 890 ON THE INSIDE CONCAVE SURFACE OF THE D5124-1 FWD SUPPORTS AND INSTALL AT AN 8.4° OFFSET FROM THE CROSSTUBE BENDING PLANE. INSTALL THE MS21920-24 CLAMPS AND D5123-3 CLAMP CUSHIONS WHILE WET.
- 10) TORQUE MS21920 CLAMPS 80 - 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY. THE NUT IS FACING AFT AND HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.
- 11) PRIOR TO FINISHING, ABRASE MATING SURFACES OF CROSSTUBE AND D5152-041 WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH'N'WIPE DEGREASER. INSTALL D5152-041 WITH LAYER OF PROSEAL 890 ON INSIDE CONCAVE SURFACE, 0.1 MIN THK. LOCATE D5152-041 USING TOOL DT10089.
- 12) PRIOR TO FINISHING, ABRASE MATING SURFACES OF CROSSTUBE AND D5305-1 SHIM WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH'N'WIPE DEGREASER. INSTALL D5305-1 SHIM WITH LAYER OF PROSEAL 890 ON INSIDE CONCAVE SURFACE, 0.1 MIN THK. USE ADDITIONAL TEMPORARY MS21920-24 CLAMP TO APPLY CLAMPING PRESSURE FOR 72 HOURS.

H	ADD D5305-1 SHIM. D6024-103 WAS D6005-103, D5124-1 NOW INSTALLED ON PRIMER	AP	15.10.13
G	FINISHING ORDER ADJUSTED, CR3212-4-08 WAS -07, CUFF DIA TOLERANCE INCREASED TO +/- 0.005	AP	15.04.24
F	REMOVED PRIME/ PAINT ON CUFFS, 2.516 WAS 2.500 (C8-5)	AP	15.02.03
E	D5152-041 FWD STEP POST ASSY WAS D5150-1 STEP POST, SCOTCH BRITE 7447 RED WAS 180 GRIT SANDPAPER, ANGLE (B7-2) DIMENSIONED FROM NEW DATUM	DB	15.01.15
D	ADD D5150-1 STEP POST (2X), MOVED INSPECTION WINDOW DETAIL TO SHEET 1, MODIFIED NOTES ON SHT 1 & 3	DB	14.11.25
C	CR3212-4-07 RIVETS WERE CR3212-4-09, 7.5 DEG CUFF ANGLE OFFSET REMOVED (SHT 3), CUFF DIAMETER ON D119-796-141TRN REDUCED TO 2.500, ADDED INSPECTION WINDOW (B7-3), ADDED SHT 4	AP	14.10.23
B	ADDED D2873-043 RADIUS BLOCK, CR3212-4-09 RIVETS, ADDED SKIDTUBE REFERENCE FOR LOCATING CUFF HOLES, RE-ORGANIZED NOTES AND REMOVED REDUNDANT INFORMATION	AP	14.09.02
A	NEW ISSUE	AP	14.08.09
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. H
MFG. APPR.	JLM	D119-796-141	SHEET 1 OF 6
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII FWD)	NTS
DATE	15.10.13	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

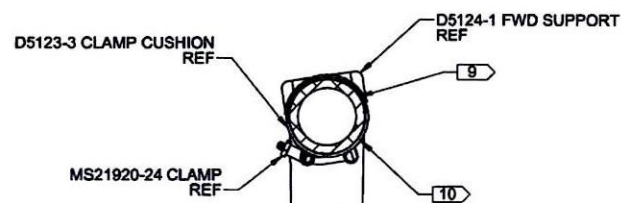
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D119-796-141 XTUBE ASSY (AW119 MKII FWD)



DETAIL B
SCALE 2X

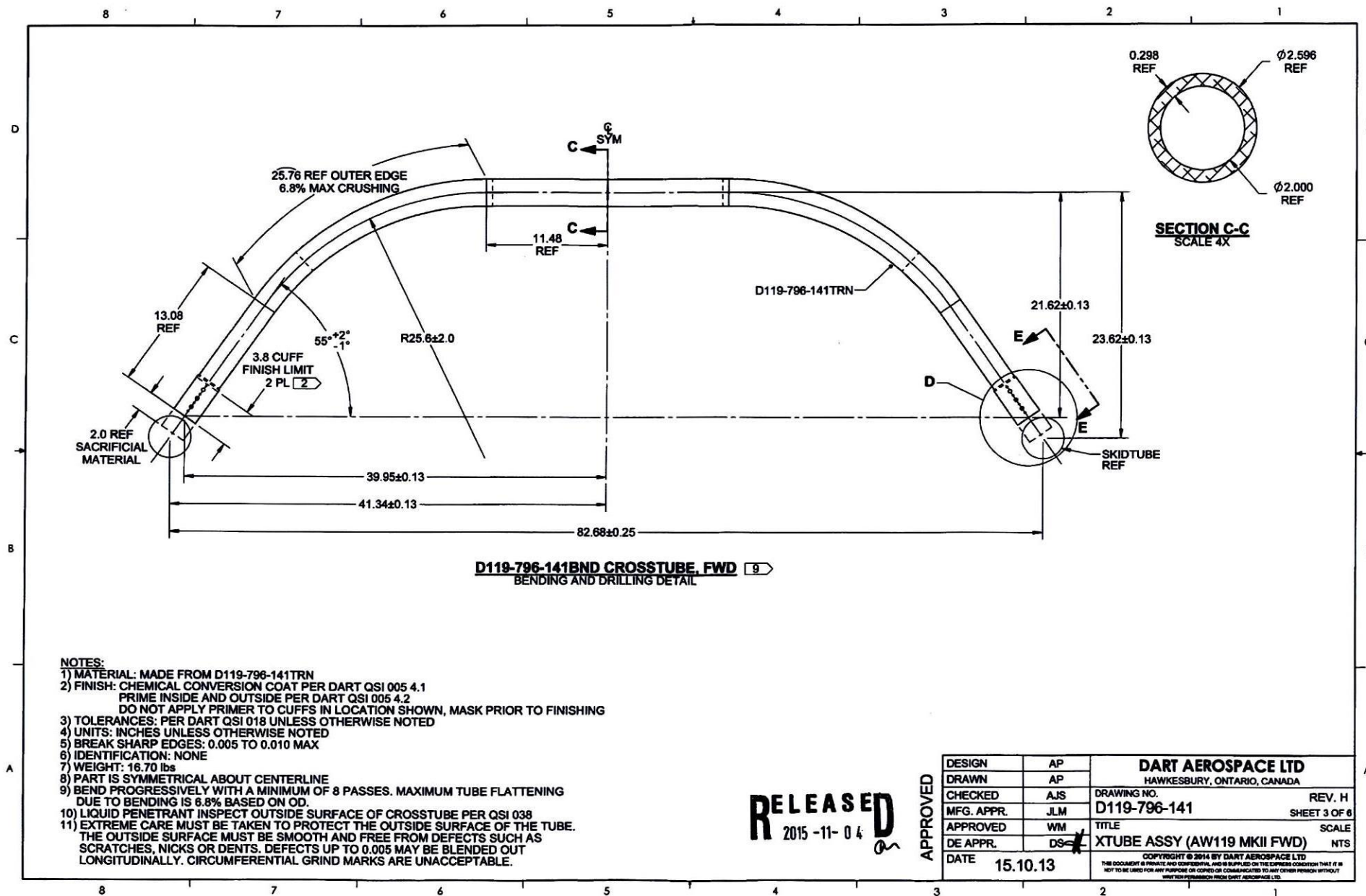


SECTION A-A
SCALE 2X

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2015-11-04

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DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. H
MFG. APPR.	JLM	D119-796-141	SHEET 2 OF 6
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII FWD)	NTS
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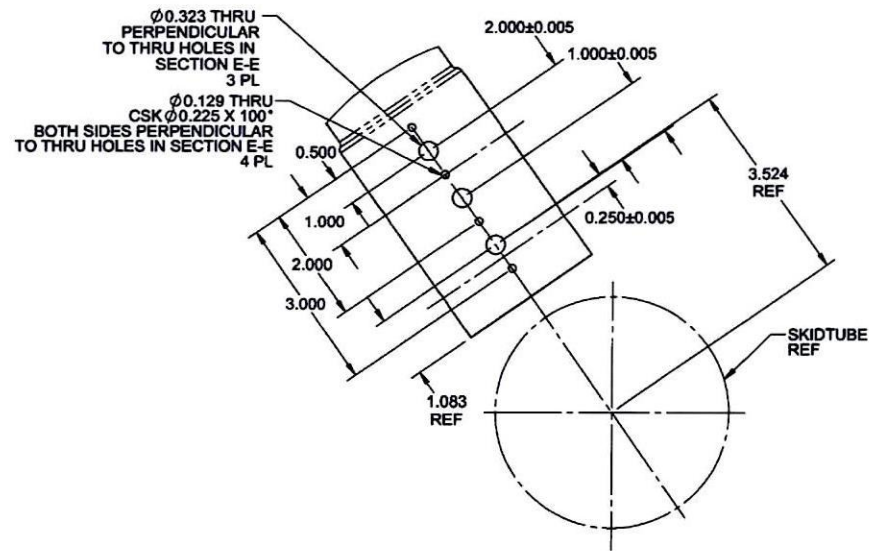
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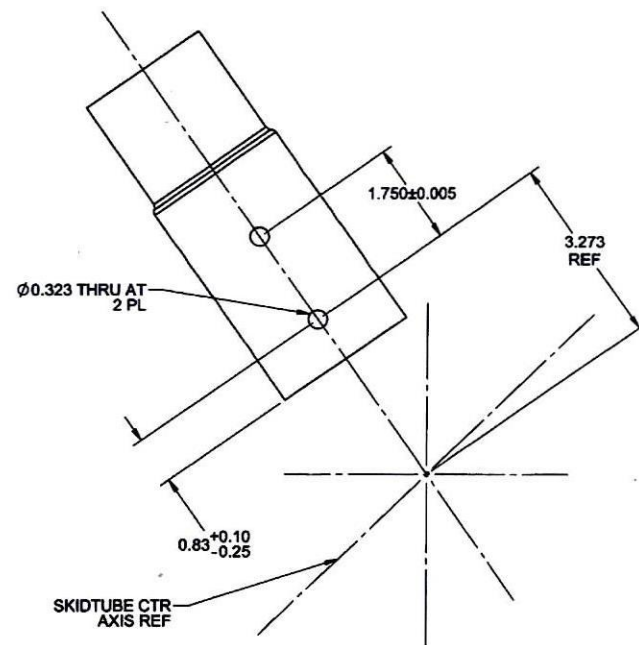
C

B

A



VIEW D
SCALE 4X



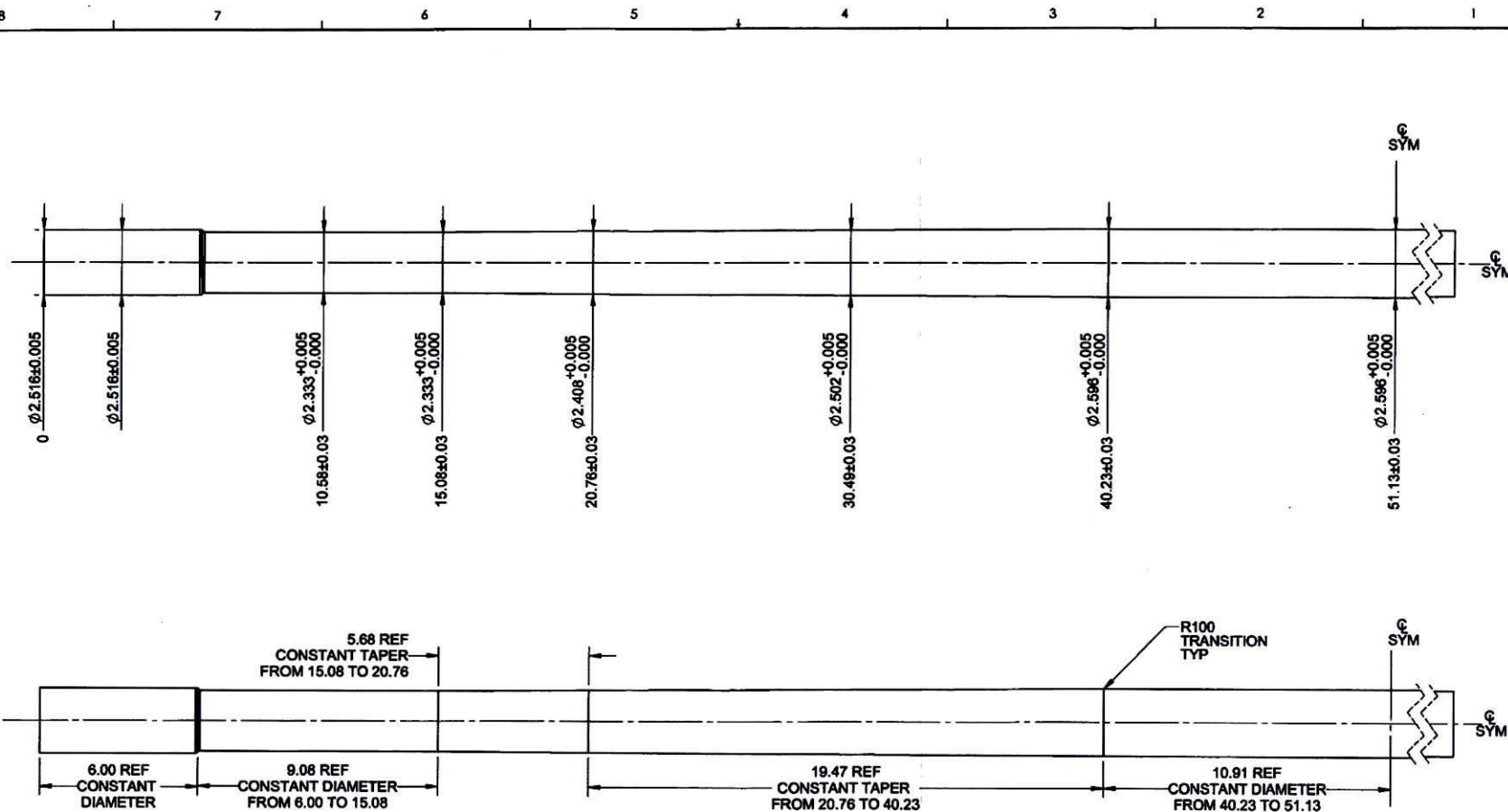
VIEW E-E
SCALE 2X

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2015-11-04

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DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. H
MFG. APPR.	JLM	D119-796-141	SHEET 4 OF 6
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII FWD)	NTS
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8 7 6 5 4 3 2 1



D119-796-141TRN CROSSTUBE, FWD

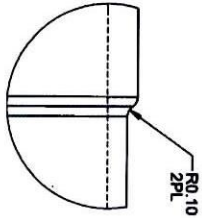
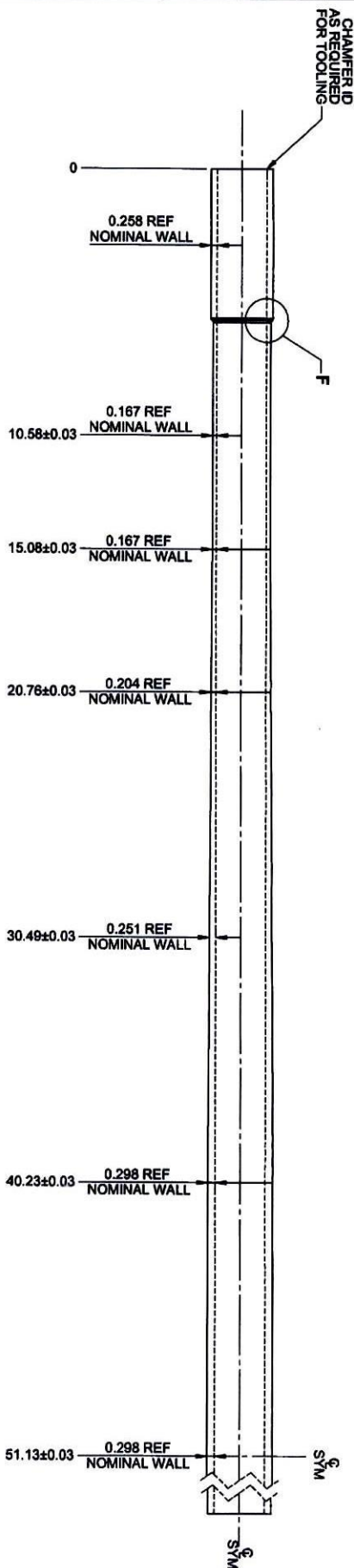
NOTES:

- 1) MATERIAL: MANUFACTURE FROM D6024-103 (PREFERRED) OR D6005-103
FINISHED LENGTH = 102.26 ± 0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 16.70 lbs
- 8) PART IS SYMMETRICAL ABOUT CENTERLINE

RELEASED
2015-11-04

APPROVED

DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. H
MFG. APPR.	JLM	D119-796-141	SHEET 5 OF 6
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII FWD)	NTS
DATE	15.10.13	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



DETAIL F
SCALE 2X

D119-796-141TRN CROSSTUBE FWD
SUPPLEMENTAL VIEW: NOMINAL WALL THICKNESS

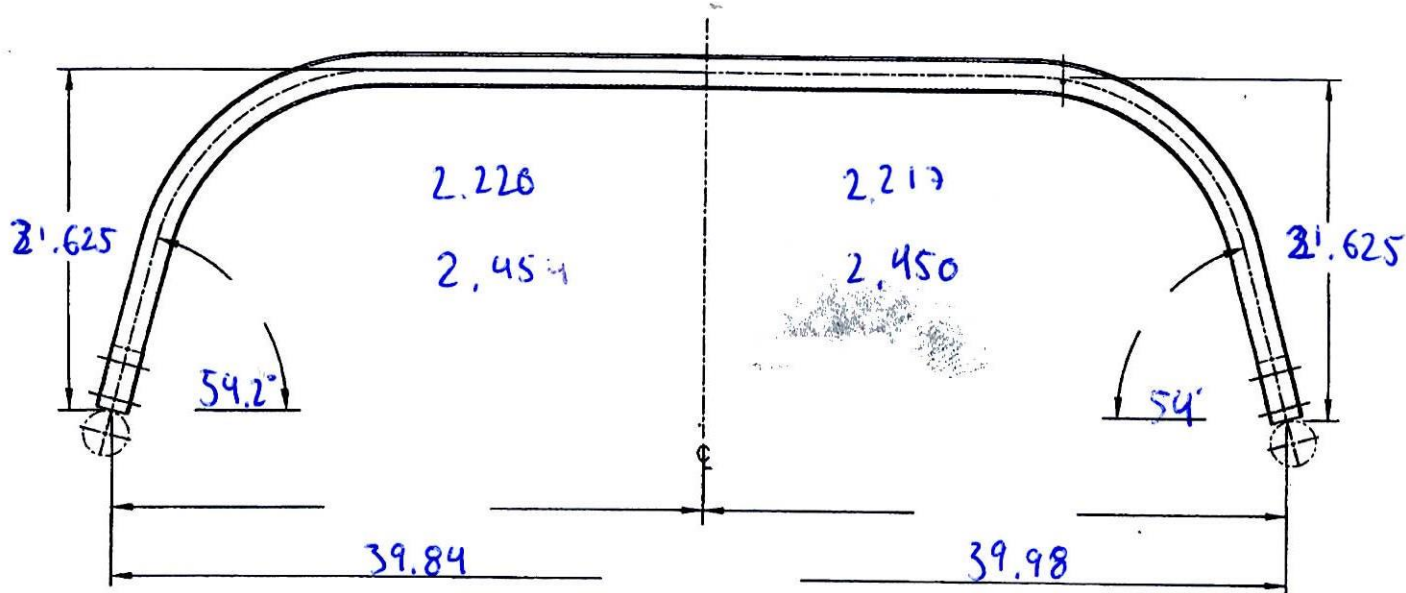
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2015-11-04
APPROVED

DESIGN	AP	AP	DART AEROSPACE LTD
DRAWN	AP	AP	HAWKESBURY, ONTARIO, CANADA
CHECKED	AJS	JLM	DRAWING NO. D119-796-141
MFG. APPR.	JLM	WMI	REV. H
APPROVED	WMI	DS	SHEET 6 OF 6
DE APPR.	DS	DS	XTUBE ASSY (AW119 MKII FWD)
DATE	15.10.13	DS	SCALE NTS

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DART AEROSPACE LTD		Work Order:	
Description: Crosstube Fwd, with Step		Part Number:	D119-796-141
Inspection Dwg: D119-796-141 Rev: H			Page 1 of 1

Required Dimension	Min	Max
Height	21.490	21.750
1/2 Span	39.820	40.080
Angle	54°	57°
Total Span	79.640	80.160
Bending Passes	8	--
Crushing	--	6.8%



	Side A	Side B
Bending Passes	9	10
Crushing	5%	5%
Comments		

QC15 Inspection	DAS 38
Date	9-88 MAR 07 2018

Rev	Date	Change	Revised by	Approved
A	15.04.14	New Issue	KJ	
B	15.11.12	Dwg Rev updated	KJ	
C	16.01.15	Dwg Rev updated	KJ	up



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO039316

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO039316
PO Date: 3/14/18
Due Date: 3/15/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	171230	D119-796-141	Fwd Crosstube Installation Without Step (No Hardware) *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: _____ LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	3/15/18	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	171232			Firmed	3/15/18	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	171243			Firmed	3/15/18	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
Sub Total:						3	0	3		\$395.63
2	170326	D119-796-241	Aft Crosstube Installation Without Step (No Hardware) *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***	Firmed	3/15/18	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	170327			Firmed	3/15/18	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	170328			Firmed	3/15/18	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	170329			Firmed	3/15/18	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
	173744			Firmed	3/15/18	1 pcs	0 pcs	1 pcs	\$131.875/pcs	\$131.88
Sub Total:						5	0	5		\$659.38

Grand Total: \$1,055.00

Order Notes

rec'd AT 12/28/15

**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO35296	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO039316
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

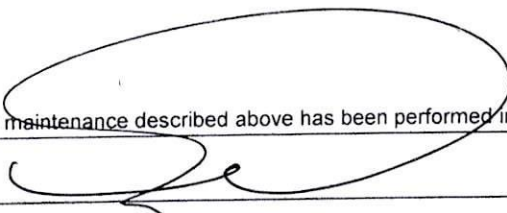
CARRY OUT NDT ON 8 CROSSTUBES AS PER PO039316

5 AFT CROSSTUBES, P/N# D119-796-241 , J/S# 170326 , 170327 , 170328 , 170329 , 173744

3 FWD CROSSTUBES , P/N# D119-796-141 , J/S# 171230 , 171232 , 171243

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-13						MAR 14 2018	 
NO CRACK FOUND							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp 	Date: MAR 14 2018
Name: RAFIK MELIKIAN		